

SUPERSCOPE®

STEREO
CASSETTE
DECK

Model CD-301A SERVICE DATA

— Jul. 1974 —

SUPERSCOPE INC.

8150 VINELAND AVENUE

SUN VALLEY, CALIFORNIA 91352 U.S.A.



SPECIFICATIONS

Tape Speed 4.8 cm/sec (1-7/8 I.P.S.)
 Reel Size Cassette
 Recording System Quarter-Track Stereo
 Rewind and Fast Forward Time 85 sec/C-60
 Frequency Response . . . Standard Tape : 40Hz to 10KHz
 Chromium Dioxide Tape : 40Hz to 14KHz
 Signal to Noise Ratio . . . Standard Tape : 48dB
 Chromium Dioxide Tape : 51dB
 Inputs Two Microphone : (one for each channel)

Plug Type : Mini
 Impedance : Low
 Input Sensitivity : -72dB

One DIN (Play/Rec)

Plug Type : DIN
 Impedance : 47Kohms
 Input Sensitivity : 12mV

Two Auxiliary : (one for each channel)

Plug Type : Phono
 Impedance : 390Kohms
 Input Sensitivity : 60mV

Bias Frequency 85KHz

Type of Level Indication Two VU Meters
 Head Configuration 1 Half-Track Erase
 1 Quarter-Track Record/Playback
 Wow and Flutter 0.2% at 4.8 cm/sec
 Number and Type of Motor One DC, Electrical
 Governor Controlled
 Number of Semi-Conductors 16 Transistors
 12 Diodes
 Outputs Two Line : (one for each channel)

Plug type : Phono
 Impedance : 6Kohms
 Output Level : 0.775V (at 0VU)

One Stereo Headphone:

Plug Type : Phone
 Impedance : 8 ohms
 Output Level : 44mV

Power Requirements 110/200/220V AC, 50/60Hz,
 11 Watts

Dimensions Width : 318mm (12-1/2")
 Height : 83mm (3-1/4")
 Depth : 225mm (8-7/8")

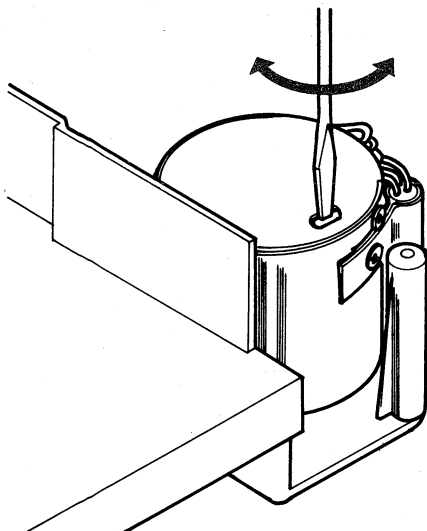
Unit Weight 2.7Kg (6 lbs)

ADJUSTING AND MEASURING PROCEDURES

1. SPEED ADJUSTMENT

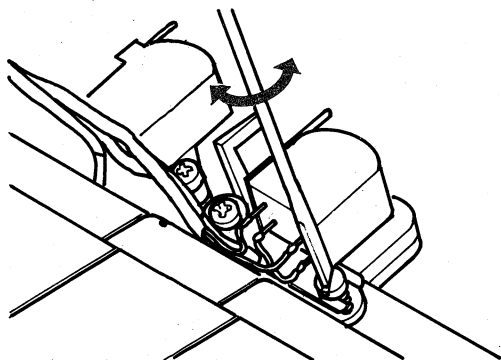
Load and run a pre-recorded test tape (3kHz), and read out and adjust its running speed with a Philip's screwdriver on the speed counter for 2,990 to 3,010Hz in the output frequency.

- Note: (1) For the speed adjustment, wait 30 seconds after having set the recorder to the PLAY position to make the tape run free from drift due to the motor.
- (2) The speed adjustment and checking should be performed halfway between the beginning and end of the test tape.
- (3) When adjusting the speed do not turn the semifixed resistor more than five times of reciprocation.
- (4) Do not perform the speed adjustment immediately after the recorder has been moved from a warm storage place to cold place (and reversely).



2. AZIMUTH ADJUSTMENT

Play a pre-recorded tape on which both 333Hz and 10kHz signals, or only 10kHz signals, is recorded and adjust the azimuth adjusting screws so that the output levels of both R and L channels may be maximum at the LINE OUT jack. If the R and L channels are different in the output peak level, set the azimuth adjusting screws to the mechanical peak position. After adjustment, repeat playback and stop of the tape several times, and check to assure that no azimuth deviation is found.

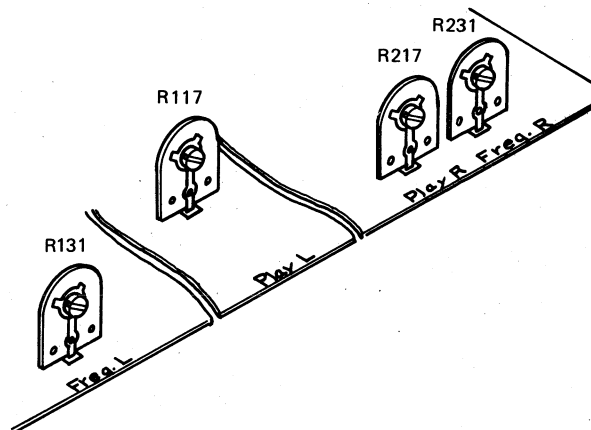


3. PLAYBACK LEVEL ADJUSTMENT

Play a 333Hz, 25mM/mm pre-recorded tape, and adjust the resistors R117 and R217 for 0.9V of the LINE OUT output levels. Counterclockwise turning of each resistor will increase the output level. The recorder is so designed that the VU meter indicates OUT when a 400Hz, 20mM/mm pre-recorded tape is played back, thus the VU meter indicates in the positive range in this adjustment.

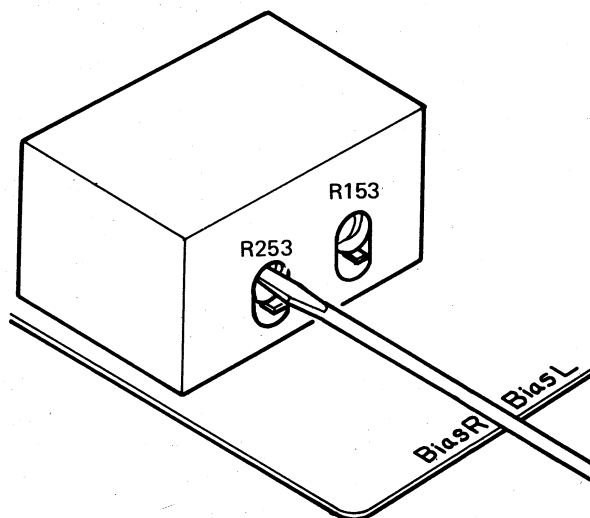
4. PLAYBACK EQUALIZER ADJUSTMENT

Play a 333Hz-and-10kHz pre-recorded tape, and adjust the resistors R131 and R231 to obtain each 10kHz output level 0 to 1dB lower than the corresponding 333Hz output level. Counterclockwise turning will increase the output level.



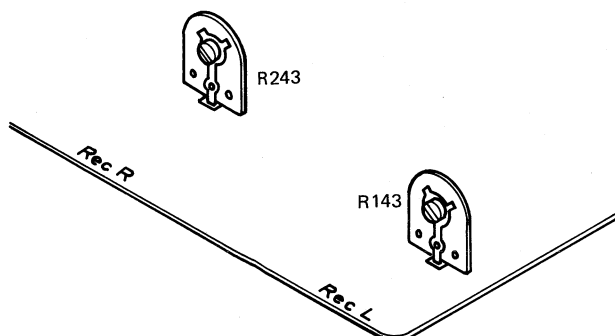
5. BIAS CURRENT ADJUSTMENT

Set the tape selector switch to the NORMAL position. Keeping the recording push-button depressed, connect a VTVM across the resistors R106 and R206 and adjust R153 and R253 to obtain 52mV across each resistor. Counterclockwise turning will increase the current. The adjustment screw driver should be bamboo made. A metal screw driver, if used, may damage the transistors due to contact with the shield case. The available range for proper adjustment is 45 to 58mV which is determined with tolerable distortions and frequency response.



6. RECORDING LEVEL ADJUSTMENT

Set the tape selector switch to the NORMAL position. Shortcircuit between the terminal 2 of the bias circuit and the ground. Keeping the recording push-button depressed, apply a -60dB signal to the microphone input, and adjust the VOL control to obtain OVU indication on the level meter. Next, connect a VTVM across the resistors R106 and R206, and adjust R143 and R243 to obtain 4.4mV across each resistor.



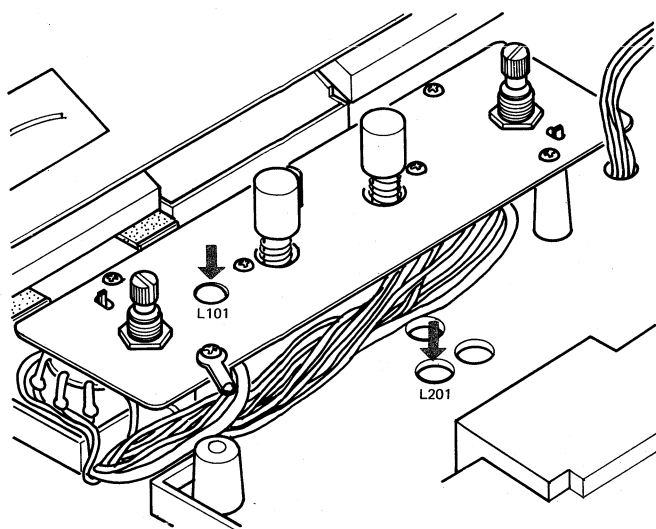
7. RECORDING EQUALIZER ADJUSTMENT

Measure the recording frequency response of every tape recorder set.

If there is a recorder not conforming to the specified recording frequency response, proceed as follows:

- (1) Set the tape selector switch to the CrO₂ position.
- (2) Shortcircuit between the terminal 2 of the bias circuit and the ground.
- (3) Keeping the recording push-button depressed, apply a -60dB signal to the microphone input and adjust the VOL control to obtain OVU read on the level meter. Leaving the VOL control set position, reduce the input level by 20dB and adjust the peak level at a high frequency in reference to 0dB at 1kHz.

Clockwise turning of L101 and L201 will shift the respective high-frequency peak position to lower frequency, and counterclockwise turning to higher frequency.



8. PLAYBACK OUTPUT LEVEL MEASUREMENT

Play a 333Hz, 25mM/mm pre-recorded tape and measure the playback output level using a VTVM.

9. PLAYBACK SIGNAL-TO-NOISE RATIO MEASUREMENT

Play a 333Hz, 25mM/mm pre-recorded tape, and read the playback output level as 0dB reference. Next, load and run a no-signal tape, and measure the output noise level.

10. PLAYBACK FREQUENCY RESPONSE MEASUREMENT

Play a 40Hz-to-10kHz, 25mM/mm, -10dB pre-recorded tape prepared specifically for frequency response measurement or a 333Hz-and-10kHz, 25mM/mm, -10dB pre-recorded tape. Measure the output level of the 10kHz signal in reference to that of the 333Hz output level.

11. RECORDING-PLAYBACK OUTPUT LEVEL, DISTORTION, AND SIGNAL-TO-NOISE RATIO MEASUREMENTS

Apply a 1kHz, -60dB signal to the microphone jack. Adjust the VOL control to obtain OVU read on the level meter. Record the input signal on an unrecorded tape. Next, disconnect the input signal, and in this state perform the no-signal recording.

Playback the recorded signal, and measure its output level and distortion.

Measure the output level deviation of the no-signal recorded noise in reference to 0dB of the above recorded 1kHz signal.

12. RECORDING-PLAYBACK FREQUENCY RESPONSE MEASUREMENT

Apply a 1kHz, -60dB signal to the microphone jack. Adjust the VOL control to obtain OVU read on the level meter. Leaving the VOL control set position, reduce the input level by 20dB, and record on an unrecorded tape. Repeat this recording for frequencies of 40Hz, 10kHz, and 14kHz.

Play the above recorded signals and measure the output level deviation of each recorded signal in reference to that of the 1kHz signal.

13. ERASE CHARACTERISTIC MEASUREMENT

Apply a 1kHz, -60dB signal to the microphone jack. Adjust the VOL control to obtain OVU read on the level meter. Leaving the VOL control set in position, raise the input level by 10dB and record on an unrecorded tape.

Next, rewind the tape halfway across the recorded portion. Disconnect the input signal from the microphone jack and perform the no-signal recording from the half position.

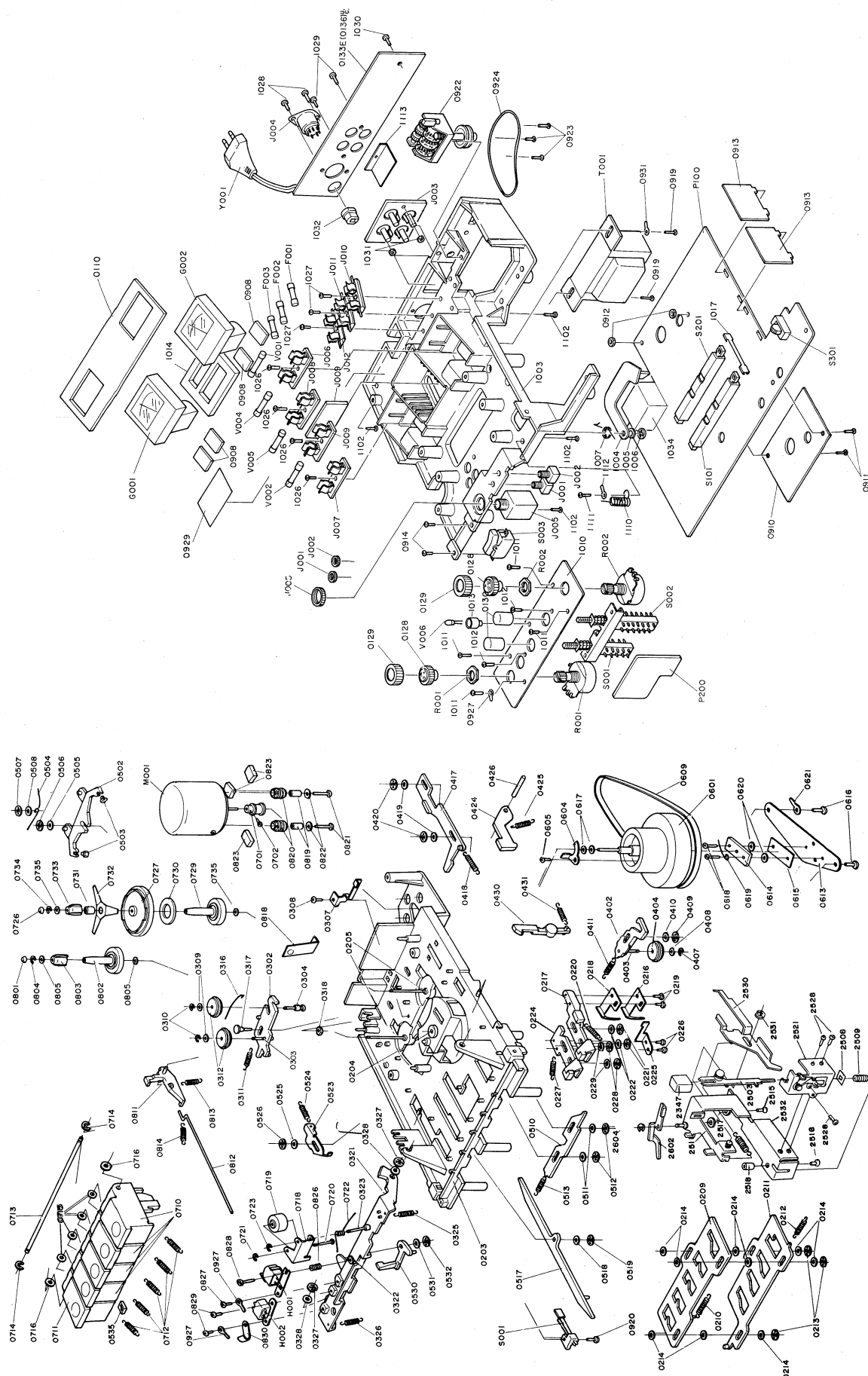
Play the recorded and erased portions through a 1kHz bandpass filter, and measure the level difference between the recorded signal and residual signal after erasing.

CAUTION: Before making any adjustment and measurement, clean the front of the heads with gauze containing alcohol or carbon tetrachloride, and fully demagnetize the heads, capstans and similar parts. After adjustment, apply a little amount of paint on the adjusted portions.

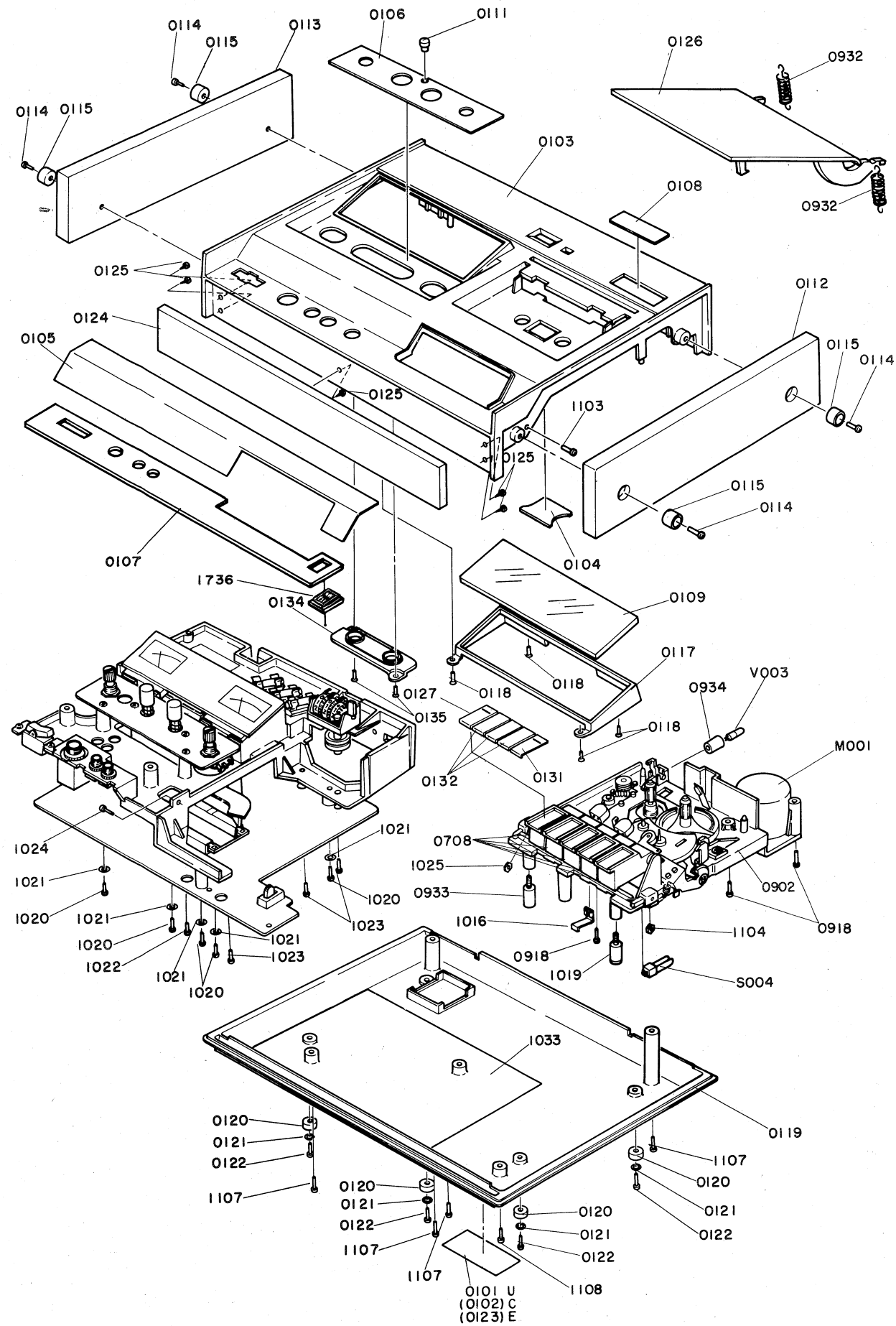
14. POWER VOLTAGE CHANGE

Plug the power voltage selection connector into the pin marked with the proper voltage on the power board.

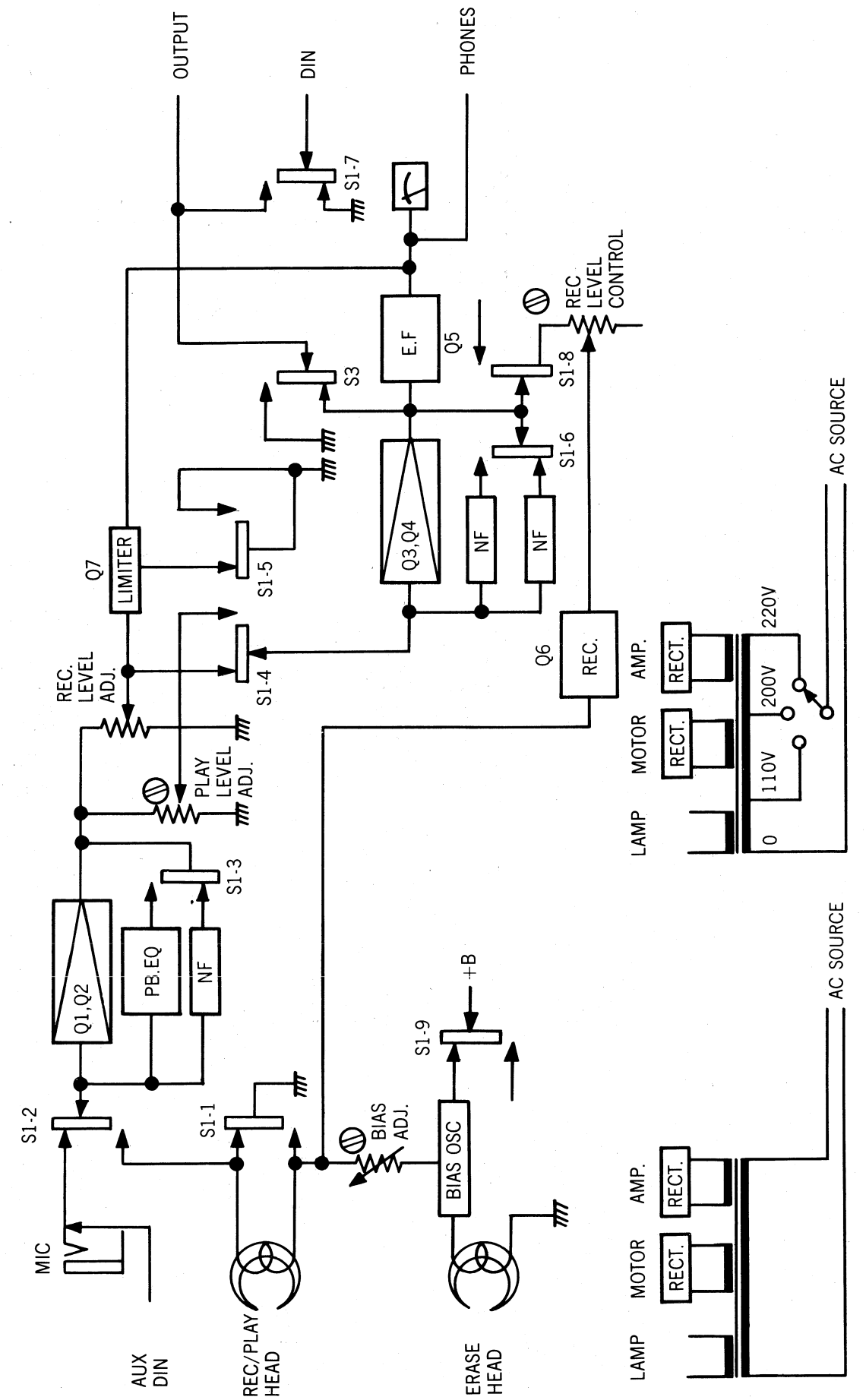
EXPLODED DIAGRAM OF THE MECHANISM



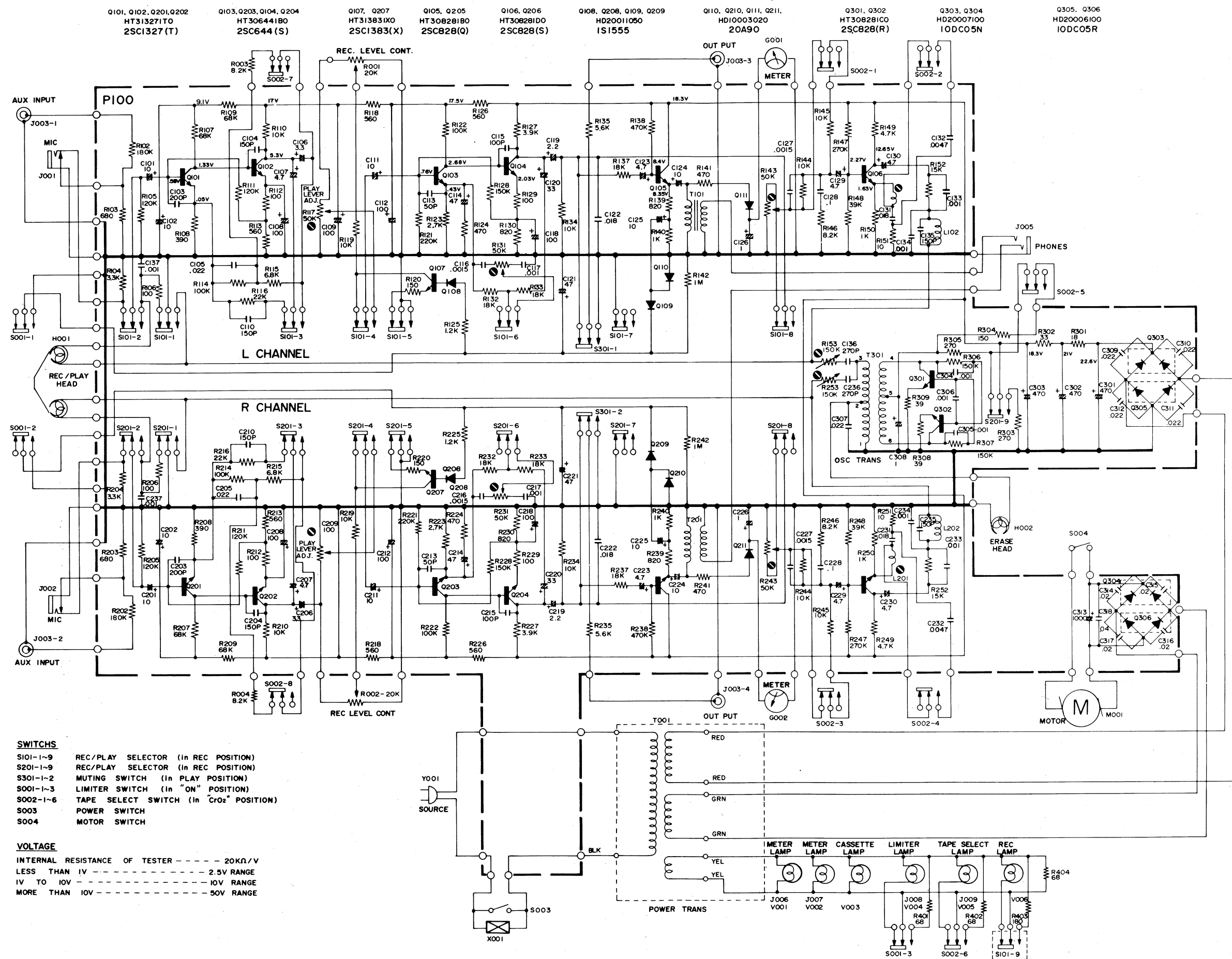
EXPLODED DIAGRAM OF THE CABINET



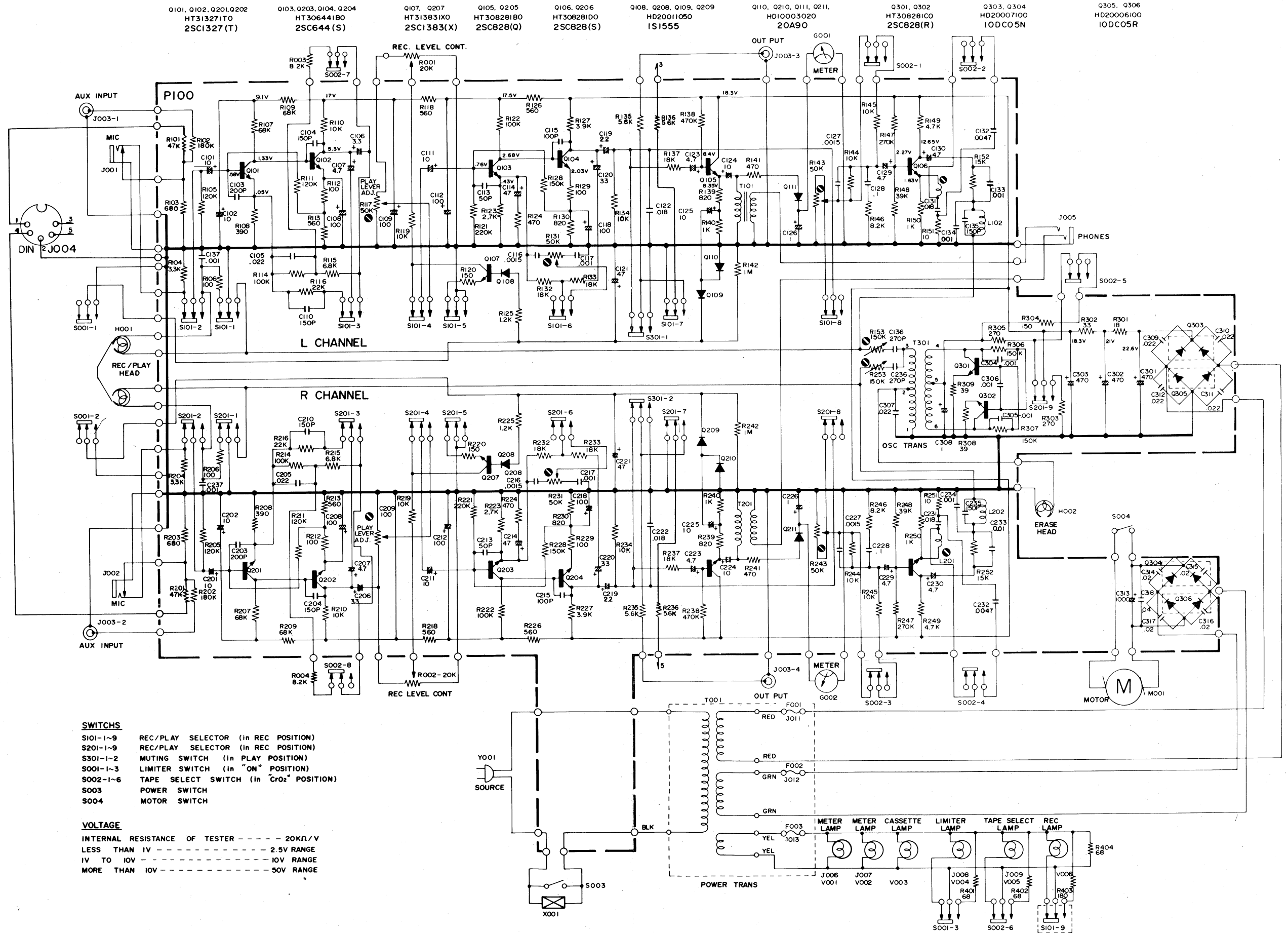
BLOCK DIAGRAM



SCHEMATIC DIAGRAM (For U.S.A. & Canada)



SCHEMATIC DIAGRAM (For Europe)



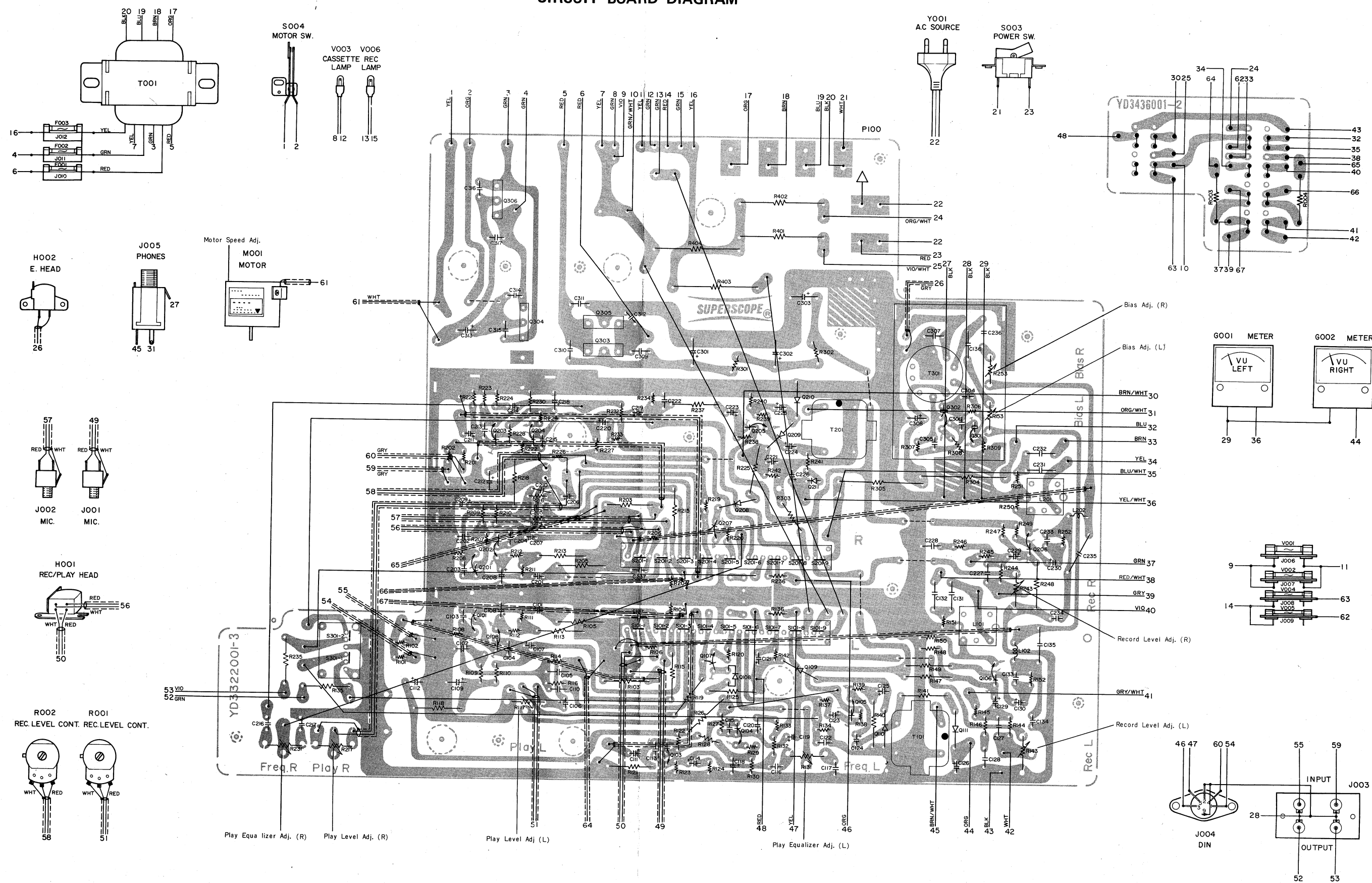
SWITCHS

S101-1~9	REC/PLAY SELECTOR (in REC POSITION)
S201-1~9	REC/PLAY SELECTOR (in REC POSITION)
S301-1~2	MUTING SWITCH (in PLAY POSITION)
S001-1~3	LIMITER SWITCH (in "ON" POSITION)
S002-1~6	TAPE SELECT SWITCH (in "CrO ₂ " POSITION)
S003	POWER SWITCH
S004	MOTOR SWITCH

VOLTAGE

INTERNAL RESISTANCE OF TESTER	20KΩ/V
LESS THAN 1V	2.5V RANGE
1V TO 10V	10V RANGE
MORE THAN 10V	50V RANGE

CIRCUIT BOARD DIAGRAM



REPLACEMENT PARTS

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
A	343606440	Case Assembly	0733	321506701	Cap
0103	332206430	Case	0725	334735301	Ring
0104	305115830	Cover Cassette Case			
0105	343606301	Escutcheon Case Upper	M	334700441	Table Assembly, (Rew.)
0106	332206302	Escutcheon Volume Around	0802	334700430	Table
0107	343606302	Escutcheon Power Switch	0803	321506701	Cap
0109	332215831	Window	0806	334735301	Ring
0111	284505301	Cover Record Lamp Red			
0124	332206307	Escutcheon Front			
0125	51522406E	R.H. Wood Screw x 5			
B	343625740	Back Lid Assembly, For U.S.A.	0209	334705430	Cam
B1	343625741	Back Lid Assembly, For Canada	0210	329511528	Spring
B2	343625742	Back Lid Assembly, For Europe	0211	329505430	Cam
0101	343626501	Indicator, Spec. Plate For U.S.A.	0212	329511528	Spring
0102	343626503	Indicator, Spec. Plate For Canada	0213	64020300Q	R.G. Ring CS Type x 3
0123	343626502	Indicator, Spec. Plate For Europe	0214	59350602G	Poli Washer x 9
0119	332225730	Back Lid Bottom	0216	329511525	Spring FF
1033	332210904	Shield Bottom Lid	0217	329535430	Lever FF
D	332227040	Button Assembly, Play/F.F./Rew. x 3	0218	329511503	Spring
0708	332227030	Button x 3	0219	51322606P	R.H. Tap Screw x 2
0132	332206306	Escutcheon x 3			
E	332227041	Button Assembly, (Stop)	0220	329511506	Spring
0708	332227030	Button	0221	64020300Q	R.G. Ring CS Type x 2
0131	332206308	Escutcheon	0222	59350602G	Poli Washer x 2
F	332227042	Button Assembly, (Rec.)	0224	329535431	Lever
0708	332227030	Button	0225	334711502	Spring x 2
0127	332206309	Escutcheon	0226	51322606P	R.H. Tap Screw x 2
G	336710540	Chassis K Tape Mechanism	0227	329511507	Spring
0203	329510530	Chassis	0228	64020300Q	R.G. Ring CS Type x 2
0204	336710602	Bearing	0229	59350602G	Poli Washer x 2
0205	329511202	Shaft x 2	0304	329511207	Shaft
0206	332211201	Shaft			
H	329535440	Lever S FF, Rew Idler	0305	331211802	Spacer
0302	329535401	Lever	0306	59010149E	Washer x 2
0303	329511204	Shaft	0307	329511502	Spring
I	333216040	Bracket S (Head)	0308	51322606P	R.H. Tap Screw
0321	333216030	Bracket	0310	64001500R	R.G. Ring E Type x 2
0322	329525901	Bush	0311	329511504	Spring
0323	329511201	Shaft	0312	329500151	Idler K x 2
J	336700240	Arm S (Take Up)	0315	59020402G	Poli Washer x 2
0402	336700202	Arm	0316	329511524	Spring
0403	329511205	Shaft	0317	329511208	Shaft
K	329535441	Lever S (Brake)			
0502	329535433	Lever	0318	53112603E	Hexagon Nut
0503	329526301	Brake x 2	0319	54042602N	Spring Washer
L	333200440	Table Assembly, Take Up	0325	332011525	Spring
0631	333226202	Pulley	0326	329511519	Spring
0727	329500402	Table	0327	64020300Q	R.G. Ring CS Type x 2
0729	334700430	Table	0328	59046502G	Poli Washer x 2
0730	185206101	Clatch	0330	332127110	Holder
0731	329505501	Collar	0331	51320306P	R.H. Tap Screw
0732	321511509	Spring x 2	0404	329500150	Idler K
			0407	64001500R	R.G. Ring E Type
			0408	59020402G	Poli Washer
			0409	64020300Q	R.G. Ring CS Type
			0410	59350602G	Poli Washer
			0411	329511510	Spring
			0417	329535432	Lever
			0419	59350602G	Poli Washer x 2
			0420	64020300Q	R.G. Ring CS Type x 2
			0424	329500203	Arm
			0425	329511512	Spring
			0426	329525401	Pin
			0430	329500230	Arm
			0431	329511518	Spring
			0432	329525402	Pin
			0504	329511513	Spring
			0505	59350602G	Poli Washer x 2

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
0506	64020300Q	R.G. Ring CS Type	0823	62261240W	Lug
0507	64020300Q	R.G. Ring CS Type	0826	329511527	Spring
0508	186111806	Spacer	0827	51400208P	B.H. Tap Screw
0510	329500231	Arm	0828	304825402	Pin
0511	59350602G	Poli Washer x 2	0829	51400210P	B.H. Tap Screw x 2
0512	64020300Q	R.G. Ring CS Type x 2	0830	112600501	Clamper
0513	329511514	Spring	0831	62021030W	Lug
0517	331235430	Lever	0906	304805602	Buffer
0518	331205502	Collar	0920	51322606P	R.H. Tap Screw x 2
0519	51320310P	R.H. Tap Screw	H001	LH4277101	REC./PLAY Head
0523	329535404	Lever	H002	LH3100028	Erase Head
0524	334711501	Spring	M001	MM1060029	DC Motor
0526	51400208P	B.H. Tap Screw	W001	YX3367001	Wiring Material, For Head
0527	334705501	Collar	S004	SM0101029	Mini Switch
0528	332016030	Bracket			
0530	329500204	Arm			P100-AUDIO BOARD
0531	333211202	Shaft	P100	YD3322001	P.W. Board (Print Only)
0601	336727350	Fly Wheel K		ZZ3436101	P.W. Board Assembly For U.S.A. & Canada
0604	326125801	Hook		ZZ3436801	P.W. Board Assembly For Europe
0605	51040204E	F.H.M. Screw	Q101	HT313271T	Transistor, 2SC1327 (T)
0609	329526401	Belt	Q201	HT313271T	Transistor, 2SC1327 (T)
0613	329510401	Retainer	Q102	HT313271T	Transistor, 2SC1327 (T)
0614	336710601	Bearing	Q202	HT313271T	Transistor, 2SC1327 (T)
0615	141511801	Spacer	Q103	HT306441B	Transistor, 2SC644 (S)
0616	51400310P	B.H. Tap Screw x 2	Q203	HT306441B	Transistor, 2SC644 (S)
0617	307711801	Spacer	Q104	HT306441B	Transistor, 2SC644 (S)
0618	51102605E	B.H.M. Screw x 2	Q204	HT306441B	Transistor, 2SC644 (S)
0619	329511526	Spring	Q105	HT308281B	Transistor, 2SC828 (Q)
0621	62631650W	Lug	Q205	HT308281B	Transistor, 2SC828 (Q)
0622	59110269E	Washer x 2	Q106	HT308281D	Transistor, 2SC828 (S)
0623	54012600E	Washer x 2	Q206	HT308281D	Transistor, 2SC828 (S)
0628	333226201	Pulley	Q107	HT313831X	Transistor, 2SC1383 (X)
0629	59020402G	Poli Washer x 2	Q207	HT313831X	Transistor, 2SC1383 (X)
0630	64001500R	R.G. Ring E Type	Q108	HD2001105	Diode, 1S1555
0701	336726201	Pulley	Q208	HD2001105	Diode, 1S1555
0702	51071079G	C.H.M. Screw	Q109	HD2001105	Diode, 1S1555
0711	329511528	Spring	Q209	HD2001105	Diode, 1S1555
0712	329511516	Spring x 4	Q110	HD1000302	Diode, 20A90
0713	336711202	Shaft	Q210	HD1000302	Diode, 20A90
0714	64000300R	R.G. Ring E Type x 2	Q111	HD1000302	Diode, 20A90
0715	186111804	Spacer x 7	Q211	HD1000302	Diode, 20A90
0716	186111806	Spacer x 2	Q301	HT308281C	Transistor, 2SC828 (R)
0718	336700203	Arm	Q302	HT308281C	Transistor, 2SC828 (R)
0719	186125501	Pinch Roller	Q303	HD2000710	Diode, 10DC05N (+) Black
0720	182311209	Shaft	Q304	HD2000710	Diode, 10DC05N (+) Black
0721	64001500R	R.G. Ring E Type	Q305	HD2000610	Diode, 10DC05R (-) Red
0722	329511517	Spring	Q306	HD2000610	Diode, 10DC05R (-) Red
0723	64001500R	R.G. Ring E Type			P100-MISCELLANEOUS
0724	59010219E	Washer	0913	332210903	Shield x 2
0726	329506701	Cap	1017	332211502	Spring
0734	64001500R	R.G. Ring E Type	1034	332210902	Shield
0735	59080402G	Poli Washer x 3			
0801	329506701	Cap	T101	TO1190504	Out Put Transf.
0804	64001500R	R.G. Ring E Type	T201	TO1190504	Out Put Transf.
0805	59020402G	Poli Washer x 3	T301	TC1018007	O.S.C. Transf. Bias
0811	329535434	Lever	L101	LC2565003	Choke Coil
0812	329535701	Rod	L201	LC2565003	Choke Coil
0813	329511516	Spring	L102	LC2226001	Choke Coil
0814	329511504	Spring	L202	LC2226001	Choke Coil
0817	331205603	Buffer	S101	SS0902006	Slide Switch Left Rec/Play
0818	329500501	Clamper	S201	SS0902006	Slide Switch Right Rec/Play
0819	329505503	Collar x 3	S301	SS0202034	Slide Switch Muting
0820	329525902	Bush x 3			
0821	51102610E	B.H.M. Screw x 3	J301	YP1000109	Plug, For Europe
0822	54022601E	Washer x 2	J302	YP1000109	Plug, For Europe
			J303	YP1000109	Plug, For Europe

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
1335	YP1000113	Plug	R131	RA0503015	Trimming, 50K Ω , Left Play Frequency Charact. Adj.
		P100-RESISTORS All resistors are $\pm 5\%$ and $\frac{1}{4}W$, unless otherwise indicated.	R231	RA0503015	Trimming, 50K Ω , Right Play Frequency Charact. Adj.
R101	RT0547314	47K Ω , For Europe	R132	RT0518314	18K Ω
R201	RT0547314	47K Ω , For Europe	R232	RT0518314	18K Ω
R102	RT0518414	180K Ω	R133	RT0518314	18K Ω
R202	RT0518414	180K Ω	R233	RT0518314	18K Ω
R103	RT0568114	680 Ω	R134	RT0510314	10K Ω
R203	RT0568114	680 Ω	R234	RT0510314	10K Ω
R104	RT0533214	3.3K Ω	R135	RT0556214	5.6K Ω
R204	RT0533214	3.3K Ω	R235	RT0556214	5.6K Ω
R105	RN1012414	120K $\Omega \pm 10\%$, $\frac{1}{4}W$	R136	RT0556214	5.6K Ω , For Europe
R205	RN1012414	120K $\Omega \pm 10\%$, $\frac{1}{4}W$	R236	RT0556214	5.6K Ω , For Europe
R106	RT0510114	100 Ω	R137	RT0518314	18K Ω
R206	RT0510114	100 Ω	R237	RT0518314	18K Ω
R107	RN1068314	68K $\Omega \pm 10\%$, $\frac{1}{4}W$	R138	RT0547414	470K Ω
R207	RN1068314	68K $\Omega \pm 10\%$, $\frac{1}{4}W$	R238	RT0547414	470K Ω
R108	RT0539114	390 Ω	R139	RT0582114	820 Ω
R208	RT0539114	390 Ω	R239	RT0582114	820 Ω
R109	RN1068314	68K $\Omega \pm 10\%$, $\frac{1}{4}W$	R140	RT0510214	1K Ω
R209	RN1068314	68K $\Omega \pm 10\%$, $\frac{1}{4}W$	R240	RT0510214	1K Ω
R110	RN1010314	10K $\Omega \pm 10\%$, $\frac{1}{4}W$	R141	RT0547114	470 Ω
R210	RN1010314	10K $\Omega \pm 10\%$, $\frac{1}{4}W$	R241	RT0547114	470 Ω
R111	RN1012414	120K $\Omega \pm 10\%$, $\frac{1}{4}W$	R142	RT0510514	1M Ω
R211	RN1012414	120K $\Omega \pm 10\%$, $\frac{1}{4}W$	R242	RT0510514	1M Ω
R112	RT0510114	100 Ω	R143	RA0503015	Trimming, 50K Ω , Rec. Amp.
R212	RT0510114	100 Ω	R243	RA0503015	Trimming, 50K Ω , Rec. Amp.
R113	RT0556114	560 Ω	R144	RT0510314	10K Ω
R213	RT0556114	560 Ω	R244	RT0510314	10K Ω
R114	RT0510414	100K Ω	R145	RT0510314	10K Ω
R214	RT0510414	100K Ω	R245	RT0510314	10K Ω
R115	RT0568214	6.8K Ω	R146	RT0582214	8.2K Ω
R215	RT0568214	6.8K Ω	R246	RT0582214	8.2K Ω
R116	RT0522314	22K Ω	R147	RT0527414	270K Ω
R216	RT0522314	22K Ω	R247	RT0527414	270K Ω
R117	RA0503015	Trimming, 50K Ω , Play Level Adj.	R148	RT0539314	39K Ω
R217	RA0503015	Trimming, 50K Ω , Play Level Adj.	R248	RT0539314	39K Ω
R118	RT0556114	560 Ω	R149	RT0547214	4.7K Ω
R218	RT0556114	560 Ω	R249	RT0547214	4.7K Ω
R119	RT0510314	10K Ω	R150	RT0510214	1K Ω
R219	RT0510314	10K Ω	R250	RT0510214	1K Ω
R120	RT0515114	150 Ω	R151	RT0510014	10 Ω
R220	RT0515114	150 Ω	R251	RT0510014	10 Ω
R121	RT0522414	220K Ω	R152	RT0515314	15K Ω
R221	RT0522414	220K Ω	R252	RT0515314	15K Ω
R122	RT0510414	100K Ω	R153	RA0154001	Trimming, 150K Ω (B), Rec. Bias Adj.
R222	RT0510414	100K Ω	R253	RA0154001	Trimming, 150K Ω (B), Rec. Bias Adj.
R123	RT0527214	2.7K Ω			P100-CAPACITORS
R223	RT0527214	2.7K Ω	C101	EA1060169	Electroly, 10 μF , 16V
R124	RT0547114	470 Ω	C201	EA1060169	Electroly, 10 μF , 16V
R224	RT0547114	470 Ω	C102	EA1060169	Electroly, 10 μF , 16V
R125	RT0512214	1.2K Ω	C202	EA1060169	Electroly, 10 μF , 16V
R225	RT0512214	1.2K Ω	C103	DD1620101	Ceramic, 200PF
R126	RT0556114	560 Ω	C203	DD1620101	Ceramic, 200PF
R226	RT0556114	560 Ω	C104	DD1615101	Ceramic, 150PF
R127	RT0539214	3.9K Ω	C204	DD1615101	Ceramic, 150PF
R227	RT0539214	3.9K Ω	C105	DF1522305	Film, 0.022 μF
R128	RT0515414	150K Ω	C205	DF1522305	Film, 0.022 μF
R228	RT0515414	150K Ω			
R129	RT0510114	100 Ω	C106	EA3350509	Electroly, 3.3 μF , 50V
R229	RT0510114	100 Ω	C206	EA3350509	Electroly, 3.3 μF , 50V
R130	RT0582114	820 Ω	C107	EA4750359	Electroly, 4.7 μF , 35V
R230	RT0582114	820 Ω	C207	EA4750359	Electroly, 4.7 μF , 35V
			C108	EA1070109	Electroly, 100 μF , 10V
			C208	EA1070109	Electroly, 100 μF , 10V

REF. DESIG.	PART NO.	DESCRIPTION		REF. DESIG.	PART NO.	DESCRIPTION	
C109	EA1070259	Electroly,	100 μ F, 25V	R306	RT0515414	150K Ω $\pm$ 5%,	$\frac{1}{4}$ W
C209	EA1070259	Electroly,	100 μ F, 25V	R307	RT0515414	150K Ω $\pm$ 5%,	$\frac{1}{4}$ W
C110	DD1615101	Ceramic,	150PF	R308	RC1039012	39 Ω $\pm$ 10%,	$\frac{1}{4}$ W
C210	DD1615101	Ceramic,	150PF	R309	RC1039012	39 Ω $\pm$ 10%,	$\frac{1}{4}$ W
				R401	GJ0568002	68 Ω $\pm$ 5%,	2W
C111	EA1060169	Electroly,	10 μ F, 16V				
C211	EA1060169	Electroly,	10 μ F, 16V	R402	GJ0568002	68 Ω $\pm$ 5%,	2W
C112	EA1070259	Electroly,	100 μ F, 25V	R403	GJ0518102	180 Ω $\pm$ 5%,	2W
C212	EA1070259	Electroly,	100 μ F, 25V	R404	GJ0568002	68 Ω $\pm$ 5%,	2W
C113	DD1650001	Ceramic,	50PF				
C213	DD1650001	Ceramic,	50PF				
C114	EA4760109	Electroly,	47 μ F, 10V				
C214	EA4760109	Electroly,	47 μ F, 10V				
C115	DD1610101	Ceramic,	100PF				
C215	DD1610101	Ceramic,	100PF				
C116	DF1615201	Film,	0.0015 μ F	C301	EA4770359	Electroly,	470 μ F, 35V
C216	DF1615201	Film,	0.0015 μ F	C302	EA4770259	Electroly,	470 μ F, 25V
C117	DF1710201	Film,	0.001 μ F	C303	EA4770259	Electroly,	470 μ F, 25V
C217	DF1710201	Film,	0.001 μ F	C304	DF1610251	Film,	0.001 μ F, 200V
C118	EA1070109	Electroly,	100 μ F, 10V	C305	DF1610251	Film,	0.001 μ F, 200V
C218	EA1070109	Electroly,	100 μ F, 10V	C306	DF1710201	Film,	0.001 μ F
C119	EA2250509	Electroly,	2.2 μ F, 50V	C307	DF1622350	Film,	0.022 μ F, 200WV
C219	EA2250509	Electroly,	2.2 μ F, 50V	C308	EA1050509	Electroly,	1 μ F, 50V
C120	EA3360259	Electroly,	33 μ F, 25V	C309	DF1722350	Film,	0.022 μ F, 200WV
C220	EA3360259	Electroly,	33 μ F, 25V	C310	DF1722350	Film,	0.022 μ F, 200WV
C121	EA4760109	Electroly,	47 μ F, 10V	C311	DF1722350	Film,	0.022 μ F, 200WV
C221	EA4760109	Electroly,	47 μ F, 10V	C312	DF1722350	Film,	0.022 μ F, 200WV
C122	DF1618301	Film,	0.018 μ F	C313	EA1080109	Electroly,	1000 μ F, 10V
C222	DF1618301	Film,	0.018 μ F	C314	DK1820303	Ceramic,	0.02 μ F, 25V
C123	EA4750359	Electroly,	4.7 μ F, 35V	C315	DK1820303	Ceramic,	0.02 μ F, 25V
C223	EA4750359	Electroly,	4.7 μ F, 35V	C316	DK1820303	Ceramic,	0.02 μ F, 25V
C124	EA1060169	Electroly,	10 μ F, 16V	C317	DK1820303	Ceramic,	0.02 μ F, 25V
C224	EA1060169	Electroly,	10 μ F, 16V	C318	DK1840302	Ceramic,	0.04 μ F
C125	EA1060169	Electroly,	10 μ F, 16V				
C225	EA1060169	Electroly,	10 μ F, 16V				
C126	EA1050509	Electroly,	1 μ F, 50V	J001	YJ0100094	Jack,	Mic.
C226	EA1050509	Electroly,	1 μ F, 50V	J002	YJ0100094	Jack,	Mic.
C127	DF1615201	Film,	0.0015 μ F	J005	YJ0100095	Jack,	Headphone
C227	DF1615201	Film,	0.0015 μ F	S003	SC0101006	Wave Switch,	Power
C128	DF1710401	Film,	0.1 μ F	C001	DK1710250	Ceramic Cap,	0.001 μ F, For Europe
C228	DF1710401	Film,	0.1 μ F	X001	BF3030001	Printed Comp.,	For U.S.A., & Canada
C129	EA4750359	Electroly,	4.7 μ F, 35V				
C229	EA4750359	Electroly,	4.7 μ F, 35V	J008	YJ0800013	Jack,	Lamp Holder
C130	EA4750359	Electroly,	4.7 μ F, 35V	J007	YJ0800013	Jack,	Lamp Socket
C230	EA4750359	Electroly,	4.7 μ F, 35V	J003	YT0204008	Terminal,	Output
				J004	YJ1100001	Jack,	DIN, For Europe
C131	DF1518305	Film,	0.018 μ F				
C231	DF1518305	Film,	0.018 μ F	J010	YJ0800009	Jack,	Fuse Holder, For Europe
C132	DF1547205	Film,	0.0047 μ F	J011	YJ0800009	Jack,	Fuse Holder, For Europe
C232	DF1547205	Film,	0.0047 μ F	J012	YJ0800009	Jack,	Fuse Holder, For Europe
C133	DF1610205	Film,	0.001 μ F				
C233	DF1610205	Film,	0.001 μ F				
C134	DF1610205	Film,	0.001 μ F				
C234	DF1610205	Film,	0.001 μ F				
C135	DF6515151	Film,	150PF				
C235	DF6515151	Film,	150PF				
C136	DF6527151	Film,	270PF				
C236	DF6527151	Film,	270PF				
C137	DF1710201	Film,	0.001 μ F				
C237	DF1710201	Film,	0.001 μ F				

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
G002	IM1103615	Meter, Level (R)	V002	IN1008007	Lamp Meter
0113	332206305	Escutcheon Case Left Side	V004	IN1008007	Lamp Limiter
0114	51320314T	R.H. Tap Screw x 2	V005	IN1008007	Lamp Tape Select
0115	332205530	Collar x 2 Wooden Case	F001	FS1005002	Fuse, 0.5A, For Europe
0117	332240130	Frame Window Lock	F002	FS1010007	Fuse, 1A, For Europe
0118	51340308P	F.H. Tap Screw x 4	F003	FS1020005	Fuse, 2A, For Europe
0126	332225731	Lid Cassette Case	T001	TS1540110	Power Transf., For Europe
0134	332225930	Bush Push Switch	T001	TS1540111	Rower Transf., For U.S.A. & Canada
0135	51340308P	F.H. Tap Screw x 2	Y001	YC0240013	Power Cord, For Europe
0932	329511519	Spring x 2	Y001	YC0240012	Power Cord, For U.S.A. & Canada
1736	343625901	Bush Pause Button	2503	343635450	Lever K Pause
1738	332211401	Stopper x 2	2508	343611401	Stopper
1739	332205633	Buffer x 2 Cassette Case	2509	343611501	Spring
1740	332011430	Stopper x 4	2511	343616051	Bracket K Pause Lever
1741	331211801	Spacer	2515	51380308P	P.H. Tap Screw
1737	332211505	Spring x 2	2516	51380314P	P.H. Tap Screw
0120	332205701	Leg x 4 Bottom Lid	2517	343611802	Spacer 2511 Bracket
0121	54010300E	Washer x 4	2518	343611801	Spacer 2511 Bracket
0122	51320306T	R.H. Tap Screw x 4	2521	343616050	Bracket K Lock Cam
1034	57271240W	Lug Eyelet	2528	51050305E	P.H.M. Screw x 2
0133	332226530	Indicator, Jack For Europe	2530	343635402	Lever Pause Lever
0136	343626530	Indicator, Jack For U.S.A. & Canada	2531	64002500R	R.G. Ring E Type
0908	332205632	Buffer x 4 Meter	2532	329511514	Spring
0910	332212030	Insulator PW Board	2602	343600201	Arm Pause Lever
0911	51020306E	R.H.M. Screw x 2	2604	64001500R	R.G. Ring E Type x 2
0912	53110303E	Hexagon Nut x 2	0108	287625102	Badge Superscope
0914	51100306H	B.H.M. Screw x 2	0130	332215402	Knob x 2 Limiter Cro2
0919	51320408P	R.H. Tap Screw x 2	1102	51060306E	R.H. Tap Screw x 4
0922	332205230	Tape Counter	1103	51020310E	R.H.M. Screw
0923	51020306E	R.H.M. Screw x 3	0918	51060306E	R.H. Tap Screw x 3
0927	62031650W	Lug	1108	51020308H	R.H.M. Screw x 5
0929	332226503	Indicator, Fuse, For Europe	2336	51320314T	R.H. Tap Screw x 2
0924	333226401	Belt Tape Counter	2337	332205531	Collar x 2
0931	62041760W	Lug	0112	332206304	Escutcheon Case Right Side
0933	332010101	Support	2339	951091101	Label, LL No. For Canada
1003	332210530	Chassis	2340	951120107	Label, UL For U.S.A.
1004	332200230	Arm Record Switch	2341	951091102	Label, Factory Cord No. For U.S.A.
1005	59350602G	Poli Washer	2343	59030805P	Washer
1006	64020300Q	R.G. Ring CS Type	2342	54050300R	T.L. Washer OR
1007	332211503	Spring	2344	332210102	Support
1011	51320308P	R.H. Tap Screw x 4	2345	331205603	Buffer
1009	332220130	Partitioner Lamp	2347	343627030	Button Pause
2036	59030810P	Washer x 2	2326	257886101	Label, Caution For U.S.A. & Canada
1016	332211501	Spring	2349	956000005	Hang Tag Volume
1019	332210101	Support	2303	ZD0200007	Connective Cord, For Europe
1020	51320310P	R.H. Tap Screw x 5	2304	308907102	Cleaner
1021	59030810P	Washer x 5	2305	ZD0120007	Connective Cord x 2, For U.S.A., Canada & Japan
1023	51320310P	R.H. Tap Screw x 3	2309	343685101	Instructions, For U.S.A. & Canada
1024	51020310E	R.H.M. Screw	2310	343685131	Instructions, For Europe
1025	53110301E	Hexagon Nut	2313	287685103	Instructions, For U.S.A. & Canada
1026	51320308P	R.H. Tap Screw x 4	2314	963000015	Guarantee Card, For U.S.A. & Canada
1027	51322610P	R.H. Tap Screw x 3	2316	287681301	Paper Bag, For U.S.A. & Canada
1028	51320308E	R.H. Tap Screw x 2, For Europe	2321	343680101	Packing Case Outer
1029	51020310E	P.H.M. Screw x 2	2322	343680501	Master Carton
1030	51322606T	R.H. Tap Screw	2323	332280301	Partitioner x 2
1031	53110303E	Hexagon Nut x 2	2324	901334501	Polyethy Bag Set
1032	145525901	Bush	2325	952281501	Serial NO Card x 2
1104	53110301E	Hexagon Nut	2328	901092001	Polyethy Bag Instruction
1113	332210905	Shield Din Jack			
1022	51020308E	R.H.M. Screw			
2037	65010306G	Insert x 3			
J006	YJ0800013	Jack Lamp Holder			
J009	YJ0800013	Jack Lamp Holder			
V001	IN1008007	Lamp Meter			